

Tool 2

Maryland GIS Resources

This tool provides links to free or low-cost, readily available GIS data useful for watershed planning in Maryland, as well as links to national data available for purchase

GIS Data Resources

Several key sources of free or low-cost, readily available GIS data have been identified for watershed planning in Maryland. These are presented in Table 1 and are grouped into two tiers. The first tier of data resources includes those deemed most useful based on their resolution, state-wide availability, low cost, accessibility, user-friendliness, and relevance to watershed planning. Tier 2 resources are those that have a higher cost, are not specific to Maryland, require a higher level of expertise to use, or contain more obscure layers that are not necessarily useful in every watershed plan. Each resource is briefly described and a web link is provided.

Table 1. GIS Data Resources for Watershed Planning in Maryland			
Source	Name of Resource	Description	Website
Tier 1 Resources			
Maryland Department of Natural Resources	Geospatial Data	Download free state-wide data and order additional data at very low cost. See complete list of available data following this table.	http://dnrweb.dnr.state.md.us/gis/data/data.asp
Maryland Department of Planning	GIS Data Download	Download sewer, zip codes, land use/land cover, soils, zoning (general), priority funding areas, census data, congressional and legislative districts	http://www.mdp.state.md.us/zip_downloads_accept.htm
Maryland Department of Planning	MD Property View	Property boundaries, high-resolution aerial photos available for purchase. Ranges from \$300 - \$700 per county for property boundaries, \$10 - \$30 per tax map for aerials	http://www.mdp.state.md.us/data/index.htm
Chesapeake Bay Program	FTP Site	Download state-wide hydrography, landcover, political boundaries, transportation and watershed boundaries (HUC 8, HUC 11)	ftp://ftp.chesapeakebay.net/Pub/Geographic/
Chesapeake Bay Program	Resource Lands Assessment	Download Bay-wide GIS data results of CBP model scenarios. Data includes ranking of lands by importance to: Prime Farmland, Ecological Network, Water Quality Protection, Forest Economics, Cultural Assessment and Vulnerability to development	http://www.chesapeakebay.net/rla.htm

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Source	Name of Resource	Description	Website
EPA	Watershed Assessments, Tracking and Environmental Results (WATERS)	Download GIS layers of 303(d) listed waters and 305(b) water quality assessments	http://www.epa.gov/waters/data/downloads.html
EPA	Better Assessment Science Integrating point and Nonpoint Sources (BASINS)	Order CD (free) or download software from website. Contains various natural resource data, base map layers, environmental monitoring data (station locations) and point source data (Superfund sites, industrial facilities discharge sites, toxic releases)	http://www.epa.gov/waterscience/basins/b3webdwn.htm
USGS	Seamless Data Distribution	Download high-resolution orthophotos, National Elevation Dataset, National Land Cover Database and various other layers using interactive map.	http://seamless.usgs.gov/website/Seamless/
USGS	USGS Geographic Data Download	Download National Hydrography Dataset, 1:24,000 Digital Line Graphs and national scale Land Use/Land cover, Digital Elevation Models, Digital Line Graphs. Contains info on obtaining other USGS map products.	http://edc.usgs.gov/geodata/
USGS	Earth Explorer	Purchase reasonably priced satellite imagery, aerial photos, Digital Line Graphs, elevation data Digital Raster Graphics.	http://edcsns17.cr.usgs.gov/EarthExplorer/
Geo Community	GIS Data Depot	Download 1:24,000 Digital Elevation Models, DOQs and other data at state or county level. Free or very low cost.	http://data.geocomm.com
Map Mart	USA Data Store	Download or order USGS products at very low cost, also order high resolution aerial photos and other data at reasonable cost.	www.mapmart.com

Table 1. GIS Data Resources for Watershed Planning in Maryland

Source	Name of Resource	Description	Website
Tier 2 Resources			
Maryland Geological Survey	Data Resources	Download layers of shoreline change, sediment distribution, shorelines, county boundaries.	http://www.mgs.md.gov/indexdata.html
Department of Interior	National Atlas	Download various national data layers in the following categories: agriculture, biology, boundaries, climate, environment, geology, history, map reference, people, transportation, water. May be useful for more obscure layers such as extent of invasive species habitat.	http://www.nationalatlas.gov/atlasftp.html
Federal Emergency Management Agency	FEMA Flood Map Store	Digital Q3 flood data available to order for \$50 per county.	http://www.msc.fema.gov/ordrinfo.shtml
Natural Resources Conservation Service	State of the Land	Download 8 digit HUC boundaries and various other boundary layers such as counties, federal lands and congressional districts	http://www.nrcs.usda.gov/technical/land/aboutmaps/coverages.html
Natural Resources Conservation Service	State Soil Geographic Database (STATSGO)	Download soil layers for U.S. states. This layer is most useful for counties with no SSURGO data available.	http://www.ncgc.nrcs.usda.gov/products/datasets/statsgo
Natural Resources Conservation Service	Soil Survey Geographic Database (SSURGO)	Download soils layers for counties. Not available for all counties.	http://www.ncgc.nrcs.usda.gov/products/datasets/ssurgo
US Census Bureau	Topologically Integrated Geographic Encoding and	Download TIGER/Line files, which include roads, railroads, rivers, lakes, legal boundaries and census statistical boundaries. Requires special conversion tools to use in GIS	http://www.census.gov/geo/www/tiger/index.html

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Source	Name of Resource	Description	Website
	Reference System (TIGER)		
US Fish and Wildlife Service	National Wetlands Inventory	Download wetlands data. NWI is available digitally for only 40% of conterminous U.S. and often misses a lot of smaller wetlands.	http://wetlands.fws.gov/downloads.htm
Maryland Historical Trust	Digital Data Products	Order GIS layers of historic properties, historic preservation easements and archaeological sites, fairly low cost.	http://www.marylandhistoricaltrust.net/gis-upd.html
Space Imaging	Ikonos	Purchase high-resolution satellite imagery. Can be very expensive.	www.spaceimaging.com
Towson University	Chesapeake Bay and Mid-Atlantic from Space	Landsat satellite data available for download by county. Requires special software to analyze data. Impervious cover and other base map data will be available soon.	http://chesapeake.towson.edu/data/download/
University of Maryland	Global Land Cover Facility	Landsat and other satellite imagery and products available for download	http://glcf.umiacs.umd.edu/data/

The Maryland DNR has the most complete Maryland-specific collection of GIS data, and is available for free download or on CD for \$65 per disk. We recommend starting with this website and then using the other websites to obtain data that is not available through DNR such as recent (less than 5 years old) high-resolution aerial photos. Certain detailed layers such as impervious cover layers, utilities and 2-foot contours will not be available at the state level and must be created or derived from local sources. The data layers available through DNR include:

- Conservation Reserve Enhancement Program (CREP) Eligible Areas
- Critical Area
- Floodplain (100 and 500-year)
- Forest interior dwelling species – potential habitat
- Green Infrastructure
- Greenway

- Maryland's I-Team data
- Natural Heritage Areas
- NERR Project Areas
- Protected Lands
 - Federal lands
 - DNR-owned lands
 - County parks
 - Agricultural land preservation foundation easements and districts
 - Private conservation lands
 - Maryland Environmental Trust easements
 - Forest legacy
 - Rural legacy areas
- Sensitive Species Project Review Areas
- Recent Shoreline
- Submerged Aquatic Vegetation
- Trib Strategy Areas
- Watersheds (1:24,000 scale, developed by MD DNR)
- Wetlands NWI (1:24,000, 1981-1982)
- Wetlands of Special State Concern
- Wetlands DNR (1:12,000, 1988-1995)
- LIDAR elevation data
- Color infared Digital Orthophoto Quarter Quadrangles (DOQQs) (1 meter, 1988-1995)
- Panchromatic digital imagery (1 meter, 1998-2000)
- RESAC impervious cover data*
- Strategic forest lands assessment data*

*Coming Soon: For more information on these layers contact Christine Conn (MD DNR, Ecosystem Analysis Center) at 410-260-8785.

